

# Installation, Operating and Maintenance Instructions

Save this manual for future reference.



- Sizes range from 1½ to 2½ tons
- Heavy-gauge, galvanized steel construction
- Copper tubing with aluminum fins
- Easy slide-out blow-through motor and blower assembly
- Drain pan is heavy-duty with a black powder-coated finish and insulated with 1/8" closed cell insulation
- Primary and secondary drain connections
- 100% factory leak and performance tested

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Intertek

## Horizontal Fan Coil

### Model Numbers:

H06E, H06F, H06G, H06H, H08E, H08F, H08G, H08H, H10E, H10F, H10G, H10H

FOR USE WITH R410a OR R22 REFRIGERANTS  
OPTIONAL ELECTRIC HEAT OR HOT WATER

READ THIS OWNER'S MANUAL CAREFULLY BEFORE YOU  
INSTALL YOUR NEW LANCO FAN COIL.

**WARNING:** Altering the product or replacing parts with unauthorized factory parts will void all warranties and may result in improper operation and/or a hazardous safety condition to service personnel or occupants.

— Lanco continues to improve its products and as a result, the design and specifications of each product may be changed without notice.

— R410a can become combustible if mixed with air at elevated temperatures or pressures. Property damage, personal injury or death could result if this warning is ignored.

— Installation and service must be performed by a qualified installer or service agency.

### WARNING:

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual. For assistance or for additional information consult a qualified installer or service agency.

# Your Warranty

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The manufacturer, Lanco, warrants this fan coil to the original purchaser under the following conditions:

## LIMITED ONE-YEAR WARRANTY

1. Any part thereof which proves to be defective in material or workmanship within one year from date of original purchase for use will be replaced at the Manufacturer's option, FOB to its factory.
2. No liability is assumed by the Manufacturer for removal or installation labor costs, nor for freight or delivery charges.

## LIMITATIONS

1. THIS LIMITED WARRANTY IS THE ONLY WARRANTY MADE BY THE MANUFACTURER, IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE LIMITED TO THE SAME ONE YEAR TERM AS THE EXPRESS WARRANTY. UNDER NO CIRCUMSTANCES SHALL THE MANUFACTURER BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, SPECIAL OR CONTINGENT DAMAGES OR EXPENSES ARISING DIRECTLY OR INDIRECTLY FROM ANY DEFECT IN THE PRODUCT OR ANY COMPONENT OR FROM THE USE THEREOF. THE REMEDIES SET FORTH HEREIN ARE THE EXCLUSIVE REMEDIES AVAILABLE TO THE USER AND ARE IN LIEU OF ALL OTHER REMEDIES.

Some states do not allow limitation on how long an implied warranty lasts, and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

2. This warranty does not include any charge for labor or installation.
3. This warranty does not extend to painted surfaces or to damage or defects resulting from accident, alteration, misuses or abuse or improper installation.
4. This warranty does not cover claims which do not involve defective workmanship or materials.

## DUTIES OF THE END USER

1. The equipment must be installed by a qualified installer and operated in accordance with the installation instructions furnished with the equipment.
2. Any travel, diagnostic costs, service labor, and labor to repair the defective unit will be the responsibility of the owner.
3. A bill of sale, cancelled check, payment record or permit should be kept to verify purchase date to establish the warranty period.
4. Have the installer enter the requested information in the space below.

## GENERAL

1. The manufacturer neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with said equipment.
2. Service under this warranty should be obtained by contacting your dealer. Provide the dealer with the model number, serial number, and purchase date verification.
3. If, within a reasonable time after contacting your dealer, satisfactory service has not been received, contact: Customer Service Department, 250 West Laurel Street, Colton, CA 92324 for assistance.
4. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

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# Installation Record

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Model No. \_\_\_\_\_ Serial No. \_\_\_\_\_

Original Purchaser \_\_\_\_\_

Address \_\_\_\_\_

City and State \_\_\_\_\_ Zip \_\_\_\_\_

Dealer \_\_\_\_\_

Address \_\_\_\_\_

City and State \_\_\_\_\_ Zip \_\_\_\_\_

Installation Date \_\_\_\_\_ Name \_\_\_\_\_ Signature \_\_\_\_\_

(Dealer or authorized representative who certifies that this appliance is installed in accordance with Manufacturer's instructions and local codes.)

# Stay Safe

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**WARNING:** Read these rules and the instructions carefully. Failure to follow these rules and instructions could cause a malfunction of the fan coil. This could result in death, serious bodily injury and/or property damage.

INSTALLATION MUST CONFORM TO LOCAL CODES. COMPLIANCE WITH ALL CODES IS THE RESPONSIBILITY OF THE INSTALLER.

1. The important safety instructions, warnings and cautions in these pages are not meant to cover all possible problems or conditions. Use common sense and caution when installing, maintaining or operating the equipment.

Always contact Lanco about any problems or conditions that you do not understand.

2. Use only manufacturer's replacement parts. Use of any other parts is not recommended.

3. It is the sole responsibility of the customer to provide the necessary protection to prevent vandalism and weather protection of the equipment.

Under no circumstance should the fan coil be left exposed to the elements.

Protect the units from dirt, plaster and other debris during the entire construction phase.

Prior to start-up, the entire interior of the unit should be inspected for debris and dirt. Clean, if necessary.

Any failure of the unit or damage to the building as a result of improperly protecting and cleaning the unit is not covered by the warranty.

4. Units weigh 60-100 pounds. A minimum of two people are recommended for handling and installation.

5. The equipment must be properly supported. Supports must always be adequate to hold the equipment securely.

6. All power must be disconnected before any installation or service is performed. More than one power source may be supplied to the fan coil.

7. Protect adjacent flammable material when welding or soldering. Use a heat shield to protect against sparks and solder.

8. Any access panels, guards or parts removed for servicing must be replaced prior to operating to avoid property damage, bodily injury or death.

9. Always use good safety practices regarding the handling, installation and servicing mechanical equipment.

10. Under no circumstances is the fan coil to be operated without an air filter.

11. When the fan coil is operating, some components operate at high speeds. Personal injury can result in touching these items.

12. Take caution that no internal damage will result if screws or holes are drilled into the cabinet.

13. Always use proper eye protection, safety equipment and tools equipment during the installation.

14. No wiring or other work should be performed without verifying that the fan coil is completely disconnected from the power source and locked out.

# Introduction

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The following steps are all needed for proper installation and safe operation of your fan coil. If you have any doubts as to any requirements, check with local authorities. Obtain professional help where needed. All of the checks and adjustments in the "Start-Up Procedures" are vital to the proper and safe operation of the fan coil. Please read the instructions before you install and use your fan coil, this will help you obtain its full value. It could also help you avoid needless service costs if the answer to the problem is found within this instruction manual.

Always consult your local HVAC inspector or building department regarding regulations codes or ordinances which apply to the installation. Check the fan coil nameplate prior to installation. It is the responsibility of the installing contractor to inspect and verify that the unit received is the correct model number, voltage, etc. Any discrepancies should be resolved before uncrating and installation. **Lanco is not responsible for any back charges due to an incorrect unit being installed.**

Upon delivery, examine each unit and all parts carefully for shipping damage. Immediately report any freight damage to the freight carrier and file a freight claim with the carrier. All units are shipped FOB factory; therefore Lanco is not responsible for damage during transit.

Returns require written authorization from Lanco. Unauthorized returns will be refused. All material returned will be inspected. Any damage, missing parts, rework or repackaging resulting from prior installation, abuses or neglect will constitute just cause for Lanco to issue partial or no credit.

## Helpful Installation Information

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The following material will help you with the installation:  
NFPA Standard 90.

# Installing Your Fan Coil

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The following steps are needed for proper installation and safe operation of your fan coil. Installation must adhere to all local and national code requirements. If you have any doubts as to any requirements, obtain professional help. Remember to ALWAYS consult your local HVAC inspector or building department regarding regulations, codes, or ordinances which apply to the installation.

This unit must be installed in a manner which will allow the blower panel to be removed in order to clean the coil surface, blower and motor and to provide access to electrical and plumbing controls. When installed in a concealed building space, the installation must conform to the requirements of NFPA Standard 90B. It must be installed level and condensate drain lines must have proper trap height. Water, drain connections, and slope must be made to the unit in accordance with local codes.

A free return installation (non-ducted return-air) requires the furred down area be completely sealed (except return-air grille) to ensure that all return air is pulled from the conditioned space and not from other areas of the building as per local code.

It is the sole responsibility of the customer to provide the necessary protection to prevent vandalism and weather protection of the equipment. Under no circumstance should the fan coil be left exposed to the elements. Protect the unit from dirt, plaster and other debris during the entire installation phase. Prior to start-up, the entire interior of the unit should be inspected for debris and dirt. Any failure of the unit or damage to the building as a result of improperly protecting and cleaning the unit is not covered by the warranty.

## Mounting

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Units weigh 60-100 pounds. A minimum of two people are recommended for handling and installation.

The unit must be securely mounted and the structure sufficient to support the weight of the equipment. All anchors for mounting must be placed and sized to ensure a safe installation.

Lanco fan coils are provided with four mounting slots. Mounting hardware is not included. Be sure the fan coil is properly leveled to ensure that the condensate will drain from the fan coil.

## Ducting

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All ducting must be installed in accordance with NFPA Standards 90A and 90B. Ducts must be adequately insulated to prevent condensation during the cooling cycle and to minimize any heat loss. Often it is acceptable to use ducting of the same size as the fan coil connections. However, unusual applications or long duct runs must be properly sized by a local professional.

## Electrical

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No wiring or other work should be performed without verifying that the fan coil is completely disconnected from the power source and locked out. Verify a good ground connection exists prior to energizing the power source.

All wiring must comply with local and national code requirements. Lanco fan coils are provided with a wiring diagram and nameplate data to provide the necessary information needed for field wiring. Wire used for connection to the fan coil must be rated for at least 90°C and comply with local codes. All wiring connections must be tight.

Any optional items, such as thermostats and fan switches to be field installed must be wired in accordance with wiring diagram supplied with the unit.

## Normal Piping Practice

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This data is intended to explain piping arrangements for direct expansion refrigerant and hot-water coils to the correct inlet and outlet locations.

### COOLING COILS

#### (Approved for use with R22 or R410A gases)

The cooling coils of this unit are for use with a direct expansion refrigerant which operates under high pressure. To be installed only by those licensed to handle these gases. A metering device for the refrigerant has been installed at the factory. This permits the unit to be paired with a variety of condensers. The suction and liquid refrigerant lines must be sized per the condenser manufacturer's specifications. A TXV may also be used and if desired can be ordered from the factory. DO NOT OPERATE IN REVERSE.

# Installing Your Fan Coil

Chilled and condensate drain lines must be insulated for efficient operation and to prevent condensate formation. Control valves, shut-off valves and non-insulated water piping must be installed over the drain pan or utilize an accessory drain pan extension. Condensate lines, one primary and one secondary, must be properly pitched to the building drain. Lanco will not assume any liability for damage caused as a result of the condensate drain line not being properly pitched or trapped. Drain line(s) should be made visible for inspection of any problems. The use of a secondary drain pan under the entire unit, with a separate drain line, is advised in areas where water damage is very critical and may be required by local building codes.

## HOT WATER COILS

Hot water coils have one inlet and outlet and may have one- to four-rows. The inlet is always at the bottom of the coil and the outlet is always at the top of the coil. All coils are piped so that the inlet is always on the row farthest downstream from the incoming air.

All coils have one or more circuits. Due to the various circuit options available, the inlet, and outlet may change position making the inlet and outlet locations vary.

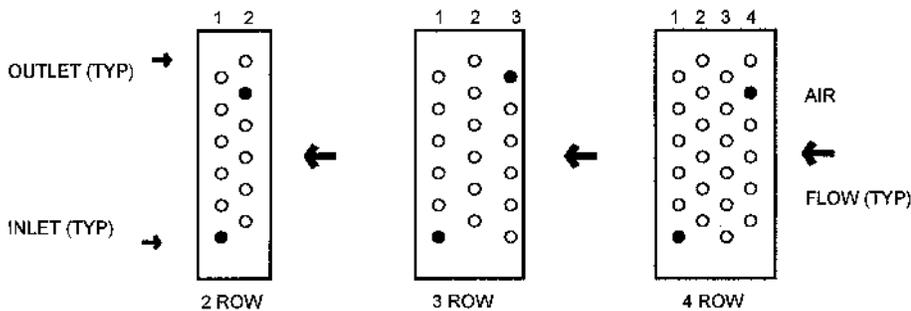
The bottom coil connection, on the leaving-air-side, is the water-supply inlet. All piping must be supported independently from the coil to prevent damage to the soldered joints. All joints must be properly sealed against air leaks to the piping.

### CAUTION

If equipped with hydronic heat, this unit has a hot water coil freeze protector installed; it may not adequately protect the water lines if the unit is installed in areas subjected to freezing temperatures (attics, unoccupied dwellings, etc.).

## TWO-PIPE COIL DIAGRAMS

(Two-Pipe Coils – Right-Hand Shown, Left-Hand Opposite)



### CAUTION

If the unit is installed during the winter months, care must be taken so that the unit is not subject to freezing temperatures while filled with water during construction. Coils damaged due to freezing are not covered by the warranty. Lanco fan coil units are suitable for zero clearance to combustible material. All air must be bled out of the system. Any air trapped in the hot-water coil can be released from the system by using the manual air vent on the coil.

In hot and humid areas: Do not operate during construction or renovation with windows and doors open causing outside air to enter the building.

### WARNING

#### **RISK OF ELECTRICAL SHOCK! CAN CAUSE INJURY OR DEATH.**

Disconnect all remote electric power supplies before servicing. Placing the thermostat in the "OFF" position should not be used for disconnect purposes.

# Operating for Your Fan Coil

## Start-Up Procedure

**Wiring:** The motor must be properly wired and grounded prior to start-up. The wiring diagrams are provided with each unit. The warranty on all motors is void if the motor is burned-out due to incorrect wiring.

Wire used for connections to the fan coil must be rated for at least 90° centigrade. All wiring connections must be tight. Check the rating of the unit to determine: voltage, frequency, phase, amperage, appropriate switching, maximum over current protection (MOP), and minimum circuit ampacity (MCA) and full load amps (FLA).

All wiring must be done in accordance with applicable local electrical codes and/or standards.

Verify a proper ground.

**Blower Wheel:** With the power off, be sure that the blower wheel(s) rotate freely and quietly. To avoid imbalance or vibration, make sure the blower has been cleaned from any installation debris.

**Housekeeping:** To ensure the best performance, be sure the equipment is clean of any debris collected during installation.

**Access Panels/Filters:** All access panels and filters must be in place before operation.

**Coils:** After the fan coil and hydronic piping have been installed and properly insulated as required, pressure test for 24 hours with a minimum of 2½ times the working pressure to insure that there are no leaks in the system. This test should be performed prior to hanging or installation of ceilings, floor coverings, drapes, etc. Any damage caused due to leaks is not covered under the warranty.

**Drain:** The condensate drain must be a minimum of ¾" OD copper tubing, ¾" galvanized-iron pipe or PVC-type plastic pipe. Be sure the drain pitches downward at a slope of 1-inch to every 10-feet. Install a 3- to 4-inch trap in the condensate line as close to the unit as possible. Make sure the top of the trap is level beneath connection to the unit to prevent condensate from overflowing the drain pan. There are two condensate drain line connections provided. Ensure that any unused connections are plugged.

# Caring for Your Fan Coil

## How to Care for Your Fan Coil

To attain maximum performance a formal schedule of regular maintenance should be performed.

**Float Switch (Optional):** The optional drain pan float switch position is not adjustable. The float switch must be mounted flush with the edge of the drain pan for optimum performance. Any attempt in moving the float switch in any other position can result in unit failure.

**Coil:** Clean the coil by removing the blower panel and brushing the fins with a stiff, plastic bristle brush, taking care not to bend or damage the fin surface. After brushing, the coil should be vacuumed to remove loose dirt. A fin comb with the proper FPI (fins per inch) spacing may be used to straighten collapsed fins. Cleaning with low pressure compressed air is also acceptable. Note that if suitable air filters are used and properly maintained, the coil should not need cleaning.

**Motor and Blower:** The blower and motor should be cleaned annually.

**Filters:** Change throwaway filters a minimum of every 90 days. Periodic checks should be made during the cooling season to ensure that excessive dust or lint is not accumulating to the extent of interrupting free air flow. If excessive dirt accumulates, the filter should be changed more frequently. Reusable/cleanable air filters should be thoroughly cleaned a minimum of twice a year and have the same periodic checks as throwaway filters.

**Drain:** The drain pan must be inspected before summer operation. All debris in the drain pan should be removed so the condensate will flow out easily. Periodic inspection of the drain pan and condensate piping should be performed during the summer operation to prevent any possibility of it becoming clogged. Lanco will assume no liability for damage caused as a result of the condensate line becoming plugged.



**This unit must be installed in a manner that allows it to operate according to the nameplate data and comply with all applicable codes. Lanco will assume no liability for damage to the unit or building due to misapplication, including field installed control devices not furnished or specified by Lanco.**

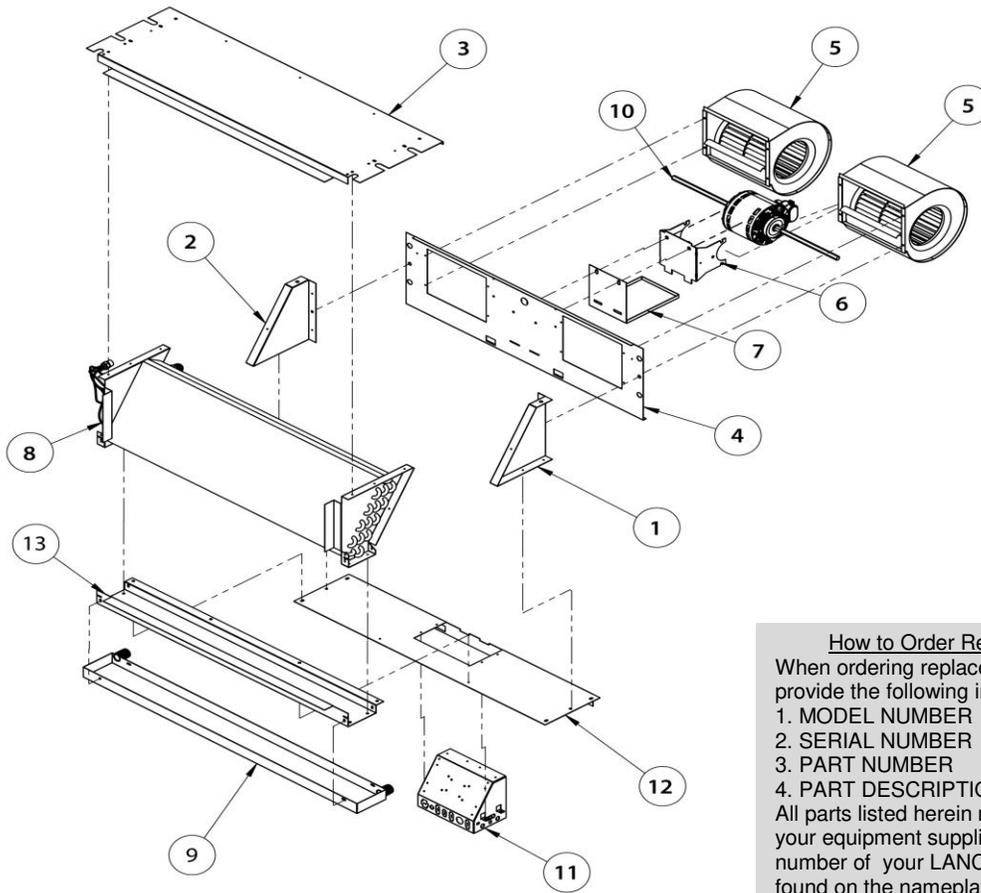
# Replacement Parts

| Model Number | Model Number | Total Heater kW | Strip Heater Part Number | Strip Heater kW | Quantity Required | Hydronic Heat | Input Voltage |
|--------------|--------------|-----------------|--------------------------|-----------------|-------------------|---------------|---------------|
| H08E302R10   | H08G302R10   | 1               | P603004                  | 0.5             | 2                 |               | 240V          |
| H08E302R20   | H08G302R20   | 2               | P603008                  | 1.0             | 2                 |               | 240V          |
| H08E302R30   | H08G302R30   | 3               | P626406                  | 1.5             | 2                 |               | 240V          |
| H08E302R40   | H08G302R40   | 4               | P603015                  | 2.0             | 2                 |               | 240V          |
| H08E302R50   | H08G302R50   | 5               | P603021                  | 2.5             | 2                 |               | 240V          |
| H08E302R60   | H08G302R60   | 6               | P603025                  | 3.0             | 2                 |               | 240V          |
| H08E302R70   | H08G302R70   | 7               | M100514                  | 3.5             | 2                 |               | 240V          |
| H08E302R80   | H08G302R80   | 8               | P603030                  | 4.0             | 2                 |               | 240V          |
| H08E302R90   | H08G302R90   | 9               | P626358                  | 4.5             | 2                 |               | 240V          |
| H08F321R00   | H08H321R00   |                 |                          |                 |                   | X             | 120V          |
| H08F322R00   | H08H322R00   |                 |                          |                 |                   | X             | 240V          |
| H08E301R00   | H08G301R00   |                 |                          |                 |                   |               | 120V          |
| H08E302R00   | H08G302R00   |                 |                          |                 |                   |               | 204V          |

**Note: All Electric Heat is 240V**

# Replacement Parts

## Basic – No Heat



### How to Order Replacement Parts

When ordering replacement parts, always provide the following information:

1. MODEL NUMBER
2. SERIAL NUMBER
3. PART NUMBER
4. PART DESCRIPTION

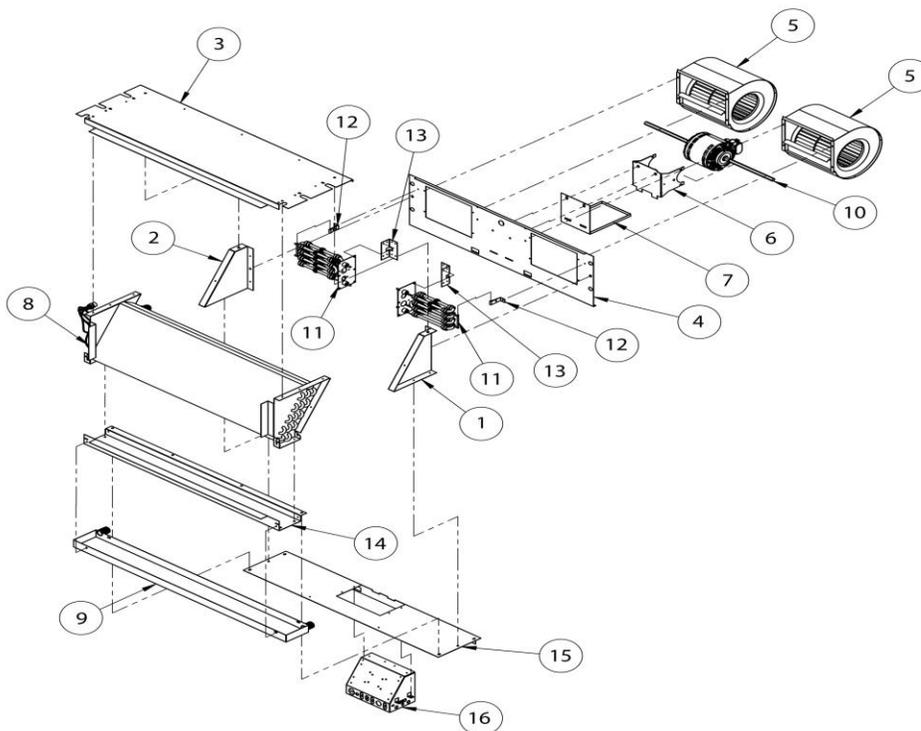
All parts listed herein may be ordered from your equipment supplier. The model number of your LANCO fan coil will be found on the nameplate.

| Item | Part Number | Description                 | Quantity Required |
|------|-------------|-----------------------------|-------------------|
| 1    | M109328     | Coil Side - Right           | 1                 |
| 2    | M109329     | Coil Side - Left            | 1                 |
| 3    | M108769     | Coil Top Panel              | 1                 |
| 4    | M109327     | Blower Panel                | 1                 |
| 5    | M100098     | Blower Assembly             | 2                 |
| 6    | M109013     | Motor Mount Support Bracket | 1                 |
| 7    | M108990     | Spark Tray                  | 1                 |
| 8    | P626282     | Coil DX                     | 1                 |
| 9    | M108735     | Drain Pan                   | 1                 |
| 10   | P626191     | Motor 1/5 HP 120/1/60       | 1                 |
| 10   | P626192     | Motor 1/5 HP 208-230/1/60   | 1                 |
| 11   | M109466     | Junction Box Assembly       | 1                 |
| 12   | M109434     | Coil Bottom Panel Cover     | 1                 |
| 13   | M109433     | Coil Bottom Panel Channel   | 1                 |
| 14   | P626374     | *TXV 410a / R22 (Optional)  | 1                 |
| 15   | P600613     | *Filter (33 by 9 by 1")     | 1                 |
| 16   | P626205     | *Chatleff Flange Nut Assy   | 1                 |
| 17   | P626206     | *Orifice Piston .051 ID     | 1                 |
| 18   | P626207     | *Orifice Piston .059 ID     | 1                 |

(\* Not Shown

# Replacement Parts

## Basic with Electric Heat

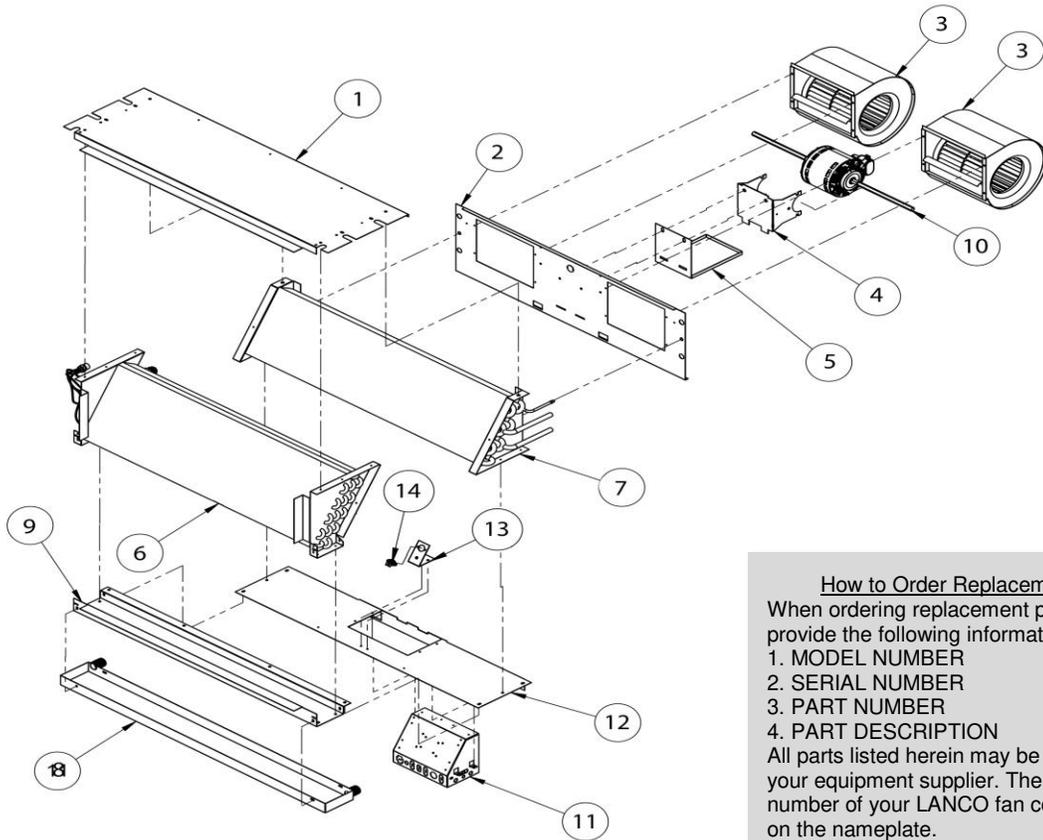


| Item | Part Number | Description                  | Quantity Required |
|------|-------------|------------------------------|-------------------|
| 1    | M109328     | Coil Side - Right            | 1                 |
| 2    | M109329     | Coil Side - Left             | 1                 |
| 3    | M108769     | Coil Top Panel               | 1                 |
| 4    | M109327     | Blower Panel                 | 1                 |
| 5    | M100098     | Blower Assembly              | 2                 |
| 6    | M109013     | Motor Mount Support Bracket  | 1                 |
| 7    | M108990     | Spark Tray                   | 1                 |
| 8    | P626282     | Coil DX                      | 1                 |
| 9    | M108735     | Drain Pan                    | 1                 |
| 10   | P626192     | Motor 1/5 HP 208-230/1/60    | 1                 |
| 11   | (*)         | Refer to chart on page 8     |                   |
| 12   | M109333     | Strip Heater Support Bracket | 2                 |
| 13   | M109332     | Strip Heater Support Bracket | 2                 |
| 14   | M109433     | Coil Bottom Panel Channel    | 1                 |
| 15   | M109434     | Coil Bottom Panel Cover      | 1                 |
| 16   | M109466     | Junction Box Assembly        | 1                 |
| 17   | P626374     | *TXV 410a / R22 (Optional)   | 1                 |
| 18   | P600613     | * Filter (33 by 9 by 1")     | 1                 |
| 19   | P626205     | *Chatleff Flange Nut Assy    | 1                 |
| 20   | P626206     | *Orifice Piston .051 ID      | 1                 |
| 21   | P626207     | *Orifice Piston .059 ID      | 1                 |

(\*) Not shown

# Replacement Parts

## Basic with Hot Water



### How to Order Replacement Parts

When ordering replacement parts, always provide the following information:

1. MODEL NUMBER
2. SERIAL NUMBER
3. PART NUMBER
4. PART DESCRIPTION

All parts listed herein may be ordered from your equipment supplier. The model number of your LANCO fan coil will be found on the nameplate.

| Item | Part Number | Description                 | Quantity Required |
|------|-------------|-----------------------------|-------------------|
| 1    | M108769     | Coil Top Panel              | 1                 |
| 2    | M109327     | Blower Panel                | 1                 |
| 3    | M100098     | Blower Assembly             | 2                 |
| 4    | M109013     | Support Bracket Motor Mount | 1                 |
| 5    | M108990     | Spark Tray                  | 1                 |
| 6    | P626282     | Coil DX                     | 1                 |
| 7    | M109343     | Coil Hot Water              | 1                 |
| 8    | M108735     | Drain Pan                   | 1                 |
| 9    | M109433     | Coil Bottom Panel Channel   | 1                 |
| 10   | P626191     | Motor 1/5 HP 120/1/60       | 1                 |
| 10   | P626192     | Motor 1/5 HP 208-230/1/60   | 1                 |
| 11   | M109466     | Junction Box Assembly       | 1                 |
| 12   | M109434     | Coil Bottom Panel Cover     | 1                 |
| 13   | M109844     | Freeze Stat Bracket         | 1                 |
| 14   | P626407     | Freeze Stat                 | 1                 |
| 15   | P626374     | *TXV 410a (Optional)        | 1                 |
| 16   | P600613     | *Filter (33 by 9 by 1")     | 1                 |
| 17   | P626205     | *Chatleff Flange Nut Assy   | 1                 |
| 18   | P626206     | *Orifice Piston .051 ID     | 1                 |
| 19   | P626207     | *Orifice Piston .059 ID     | 1                 |

(\*) Not shown

